

Patricia A. Peshka  
Purchasing Agent



Scott Avedisian  
Mayor

**City of Warwick**  
Purchasing Division  
3275 Post Road  
Warwick, Rhode Island 02886  
Tel (401) 738-2013  
Fax (401) 737-2364

The following notice is to appear on the City of Warwick's website Wednesday, March 07, 2018. The website address is <http://www.warwickri.gov/bids>.

**CITY OF WARWICK  
BIDS REQUESTED FOR**

**Bid2019-010 Wastewater Treatment Chemicals**

Specifications are available in the Purchasing Division, Warwick City Hall, Monday through Friday, 8:30 AM until 4:30 PM on or after Wednesday, March 07, 2018.

Sealed bids will be received by the Purchasing Division, Warwick City Hall, 3275 Post Road, Warwick, Rhode Island 02886 up until 11:00 AM, Monday, April 16, 2018. The bids will be opened publicly commencing at 11:00 AM on the same day in the City Council Chambers at Warwick City Hall.

Awards shall be made on the basis of the lowest evaluated or responsive bid price. Please note that no bids can be accepted via email or fax.

Individuals requesting interpreter services for the hearing impaired must notify the Purchasing Division at 401-738-2013 at least 48 hours in advance of the bid opening date.

Patricia A. Peshka  
Purchasing Agent

**PLEASE COMPLETE THIS PAGE & SUBMIT WITH YOUR BID**

**Acknowledgement of Addendum (if applicable)**

<b>Addendum Number</b>	<b>Signature of Bidder</b>
_____	_____
_____	_____

COMPANY NAME: \_\_\_\_\_

COMPANY ADDRESS: \_\_\_\_\_

COMPANY ADDRESS: \_\_\_\_\_

BIDDER'S SIGNATURE: \_\_\_\_\_

BIDDER'S NAME (PRINT): \_\_\_\_\_

TITLE: \_\_\_\_\_ TEL. NO.: \_\_\_\_\_

EMAIL ADDRESS: \_\_\_\_\_ \*

\*Please include your email address. Future bids will be emailed, unless otherwise noted.

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**II. AWARD AND CONTRACT:**

The CITY OF WARWICK, acting as duly authorized through its Purchasing Agent/Finance Director/Mayor (delete if inapplicable), accepts the above bid and hereby enters into a contract with the above party to pay the bid price upon completion of the project or receipt of the goods unless another payment schedule is contained in the specifications. All terms of the specifications, both substantive and procedural, are made terms of this contract.

DATE: \_\_\_\_\_  
Bid2019-010 Purchasing Agent

**PLEASE COMPLETE THIS PAGE & SUBMIT WITH YOUR BID**

**CERTIFICATION & WARRANT FORM\***

**This form must be completed and submitted with sealed bid.  
Failure to do so will result in automatic rejection.**

Any and all bids shall contain a certification and warrant that they comply with all relevant and pertinent statutes, laws, ordinances and regulations, in particular, but not limited to Chapter 16- Conflicts of Interest, of the Code of Ordinances of the City of Warwick. Any proven violation of this warranty and representation by a bidder at the time of the bid or during the course of the contract, included, but not limited to negligent acts, either directly or indirectly through agents and/or sub-contractors, shall render the bidder's contract terminated and the bidder shall be required to reimburse the City for any and all costs incurred by the City, including reasonable attorney fees, to prosecute and/or enforce this provision.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

**\*This form cannot be altered in any way**

**CITY OF WARWICK  
NOTICE TO BIDDERS**

**Bid2019-010 Wastewater Treatment Chemicals**

If you received this document from our homepage or from a source other than the City of Warwick Purchasing Division, please check with our office prior to submitting your bid to ensure that you have a complete package. The Purchasing Division cannot be responsible to provide addenda if we do not have you on record as a plan holder.

Bids received prior to the time of the opening will be securely kept, unopened. No responsibility will be attached to an officer or person for the premature opening of a bid not properly addressed and identified. No bids shall be accepted via facsimile or email.

The opening of bids shall be in the order established by the posted agenda and the agenda shall continue uninterrupted until completion.

Once an item has been reached and any bids on that item has been opened, no other bids on that item will be accepted and any such bid shall be deemed late.

The contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap for any position for which the employee or applicant is qualified and that in the event of non-compliance the City may declare the contractor in breach and take any necessary legal recourse including termination or cancellation of the contract.

A bidder filing a bid thereby certifies that no officer, agent, or employee of the City has a pecuniary interest in the bid or has participated in contract negotiations on the part of the City, that the bid is made in good faith without fraud, collusion, or connection of any kind with any other bidder for the same call for bids, and that the bidder is competing solely in his own behalf without connection with, or obligation to, any undisclosed person or firm.

All bids should be submitted with one (1) original and one (1) copy in a sealed envelope, which should read: *YOUR COMPANY NAME* plainly marked on the exterior of the envelope as well as "Bid2019-010 Wastewater Treatment Chemicals."

Should you have any questions, please contact Charles Labbe, Warwick Sewer Authority, 125 Arthur Devine Blvd. Warwick, RI, at 401-468-4724.

All bids should be written in ink or typed. If there is a correction with whiteout, the bidder must initial the change.

Negligence on the part of the bidder in preparing the bid confers no rights for the withdrawal of the bid after it is open.

Any deviation from the specifications must be noted in writing and attached as part of the bid proposal. The bidder shall indicate the item or part with the deviation and indicate how the bid will deviate from specifications.

The IRS Form W-9 available on [www.warwickri.gov](http://www.warwickri.gov) should be completed and submitted with the bid if the bidder falls under IRS requirements to file this form.

The successful bidder must provide the City of Warwick with an original **Certificate of Insurance** for General & Automobile Liability in a minimum amount of \$2 million. The certificate of insurance must name the *City of Warwick as the additional insured* and so stated on the certificate with the bid name and bid number. It is the vendor's responsibility to provide the City of Warwick with an updated certificate of insurance upon expiration of the original certificate.

For a bid to be awarded to a corporation, limited liability company or other legal entity, prior to commencing work under the awarded bid, that corporation, company or legal entity may be required to provide to the Purchasing Agent a **Certificate of Good Standing** dated no more than thirty (30) days prior to the date upon which the bid approval was made.

The successful bidder will provide said **Certificate of Insurance** and **Certificate of Good Standing** (if required) within ten (10) calendar days after notification or the City reserves the right to rescind said award.

Prices to be held firm July 1, 2018 through June 30, 2019. Term contracts may be extended for an additional two (2), one- year terms upon mutual agreement unless otherwise stated.

The contractor must carry sufficient liability insurance and agree to indemnify the city against all claims of any nature, which might arise as a result of his operations or conduct of work.

The City is exempt from the payment of the Rhode Island Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30, Paragraph I, as amended.

The Purchasing Agent reserves the right to reject any and all bids, to waive any minor deviations or informalities in the bids received, and to accept the bid deemed most favorable to the interest of the City.

The successful bidder must comply with all Rhode Island Laws applicable the public works projects, including, but not limited to provisions of Chapter 13 of Title 37 of the

Rhode Island General Laws, pertaining to prevailing wage rates, and all other applicable local, state and federal laws.

The City reserves the right to terminate the contract or any part of the contract in the best interests of the City, upon 30-day notice to the contractor. The City shall incur no liability for materials or services not yet ordered if it terminates in the best interests of the City. If the City terminates in the interests of the City after an order for materials or services have been placed, the contractor shall be entitled to compensation upon submission of invoices and proper proof of claim, in that proportion which its services and products were satisfactorily rendered or provided, as well as expenses necessarily incurred in the performance of work up to time of termination.

No extra charges for delivery, handling or other services will be honored. All claims for damage in transit shall be the responsibility of the successful bidder. Deliveries must be made during normal working hours unless otherwise agreed upon.

All costs directly or indirectly related to the preparation of a response to this solicitation, or any presentation or communication to supplement and/or clarify any response to this solicitation which may be required or requested by the City of Warwick shall be the sole responsibility of and shall be borne by the respondent.

If the respondent is awarded a contract in accordance with this solicitation and the respondents bid or response and if the respondent fails or refuses to satisfy fully all of the respondents obligations thereunder, the City of Warwick shall be entitled to recover from the respondent any losses, damages or costs incurred by the City as a result of such failure or refusal.

The City reserves the right to award in part or full and to increase or decrease quantities in the best interest of the City.

Any quantity reference in the bid specifications are estimates only, and do not represent a commitment on the part of the City of Warwick to any level of billing activity. It is understood and agreed that the agreement shall cover the actual quantities ordered during the contract period.

The City reserves the right to rescind award for non-compliance to bid specifications.

The successful bidder must adhere to all City, State and Federal Laws, where applicable.

**PLEASE COMPLETE THE FOLLOWING PAGES & SUBMIT WITH YOUR BID**

**SUPPLEMENT TO BID SPECIFICATIONS**

**Bid2019-010 Wastewater Treatment Chemicals**

1. The Warwick Sewer Authority plans to purchase, Liquid Sodium Chlorite, Liquid Sodium Bisulfite, Liquid Sodium Hydroxide, Dry Cationic Polymer, Liquid Aluminum Sulfate, and Ferric Chloride for Warwick Sewer Authority as indicated in the attached specifications.

Bidder is not to separate the supplement from the bid but must return same as complete. Bid is not to include any taxes, from which the City of Warwick is exempt by State law.

2. BID: Sealed bids shall be received by the Purchasing Division on the form attached in a sealed envelope marked "BID2019-010 WASTEWATER CHEMICALS".
3. BID QUALIFICATIONS: Each bidder shall present evidence that they are normally engaged in the purveying of this type of material, supplies or equipment. The bidder should be thoroughly familiar with the contents of the notice before submitting a bid. The bidder automatically acknowledges and accepts all the provisions, conditions and specifications of this notice; no bid shall be considered from bidders who are unable to show that they are normally engaged in purveying of the type of material, supplies or equipment bid on.
4. DELIVERY: Material shall be delivered for operation as required by the specifications. If the vendor fails to deliver materials as required in the time indicated, or subsequently agreed to, a credit may be taken in the bid price of 1/10 of 1% per day at the discretion of the Purchasing Agent for the City of Warwick. Off- loading of any chemical shall be prohibited until a Warwick Sewer Authority employee has signed off and accepted said delivery.
5. ACCEPTANCE OF REJECTION: The City of Warwick – WSA reserves the right to reject any or all bids, to accept any bid or to waive any informality in the bid as deemed advisable in the best interest of the City.
6. PAYMENT: The City agrees to pay for the material within thirty (30) days after acceptance. Acceptance means 100% delivery of satisfactory merchandise to comply with our specifications.
7. TESTS: Before approval, the Superintendent shall have the right to inspect and test the materials furnished in accordance with this notice. All chemical deliveries shall be accompanied by a certificate of analysis.

Bid of \_\_\_\_\_ (hereinafter called "bidder"  
organized and existing under the laws of the State of doing business as (Hereinafter called "Owner").

**Continued next page**

The bidder, in compliance with the invitation for bids for the supply of Liquid Sodium Chlorite, Liquid Sodium Bisulfite, Liquid Sodium Hydroxide, Dry Cationic Polymer, Liquid Aluminum Sulfate, and Ferric Chloride agrees to have examined the specifications with relating documents and the site of the proposed delivery. The bidder shall be familiar with all of the conditions surrounding the project, hereby proposes to furnish all materials and supplies in accordance with the Contract Documents, at time set forth therein, and at prices stated below. These prices are to cover all expenses incurred in furnishing and delivering material in accordance with the Contract Documents, of which this bid is a part.

A. BASE BID – The bidder agrees to furnish **LIQUID SODIUM CHLORITE** as described in the specifications for the price per gallon and per pound as listed below. Amount shall be shown in both words and figures. In case of discrepancy, the amount in words shall govern.

\$ \_\_\_\_\_ gallon

\_\_\_\_\_ gallon

\$ \_\_\_\_\_ pound

\_\_\_\_\_ pound

\$ \_\_\_\_\_ per tote (275 gal. tote)

B. BASE BID – The bidder agrees to furnish **LIQUID SODIUM BISULFITE** as described in the specifications for price per gallon and per pound as listed below. Amount shall be shown in both words and figures. In case of discrepancy, the amount in words shall govern.

\$ \_\_\_\_\_ gallon

\_\_\_\_\_ gallon

\$ \_\_\_\_\_ pound

\_\_\_\_\_ pound

C. BASE BID – The bidder agrees to furnish **LIQUID SODIUM HYDROXIDE (50% solution)** as described in the specifications for price per gallon and per pound as listed below. Amount shall be shown in both words and figures. In case of discrepancy, the amount in words shall govern.

\$ \_\_\_\_\_ gallon

\_\_\_\_\_ gallon

\$ \_\_\_\_\_ pound

\_\_\_\_\_ pound

Continued next page



D. BASE BID - The bidder agrees to furnish **DRY CATIONIC WATER-SOLUBLE POLYMER** as described in the specifications for price per gallon and per pound as listed below. Amount shall be shown in both words and figures. In case of discrepancy, the amount in words shall govern.

\$ \_\_\_\_\_ pound

\_\_\_\_\_ pound

E. BASE BID – The bidder agrees to furnish **LIQUID ALUM** described in the specifications for the price per gallon and dry pound as listed below. Amount shall be shown in both words and figures. In case of discrepancy, the amount in words shall govern.

\$ \_\_\_\_\_ gallon @ <5,000 delivered

\_\_\_\_\_ gallon @ <5,000 delivered

\$ \_\_\_\_\_ pound @ <5,000 delivered

\_\_\_\_\_ pound @ <5,000 delivered

\$ \_\_\_\_\_ gallon @ >5,000 delivered

\_\_\_\_\_ gallon @ >5,000 delivered

\$ \_\_\_\_\_ pound @ >5,000 delivered

\_\_\_\_\_ pound @ >5,000 delivered

F. BASE BID – The bidder agrees to furnish **FERRIC CHLORIDE** described in the specifications for the price per gallon and dry pound as listed below. Amount shall be shown in both words and figures. In case of discrepancy, the amount in words shall govern.

\$ \_\_\_\_\_ gallon

\_\_\_\_\_ gallon

\$ \_\_\_\_\_ pound

\_\_\_\_\_ pound

Continued next page

The above prices shall include all labor, materials, transportation, uses of containers, overhead, profit, insurance, etc., for the period of the contract. No additional or separate deposit will be made on containers. The bidder understands that the Owner reserves the right to reject any or all bids and to waive any informality in the bidding. The Bidder agrees that this bid shall be valid and may not be withdrawn for a period of sixty (60) days after the scheduled closing time for receiving bids.

**CERTIFIED BY:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**SEAL IF A CORPORATION:**

\_\_\_\_\_

## A. SPECIFICATIONS FOR LIQUID SODIUM CHLORITE SOLUTION

### 1. SCOPE

This specification is for a liquid sodium chlorite solution for use as an odor control agent at our treatment facility, sewage pump station wet wells and force mains.

### 2. GENERAL

The price shall be good for the one-year period extending from July 1, 2018 through June 30, 2019. Term contracts may be extended for two additional one year terms upon mutual agreement unless otherwise stated. Billing shall be based on total gallons delivered.

### 3. QUANTITY

The estimated quantity for this time period is 3900 gallons. The owner reserves the right to increase or decrease the quantity in accordance with requirements.

### 4. DELIVERY

Deliveries will be made to the Warwick Sewer Authority, located at 125 Arthur W. Devine Boulevard, Warwick, R.I., in 275 gallon totes; on weekdays between the hours of 8 am and 3 pm. Deliveries will be made only at the owner's request. Deliveries shall be made within two (2) days of the order.

### 5. TRANSPORTATION

All deliveries shall conform in every respect with applicable Federal and State laws, security and load requirements.

### 6. STANDARDS

Basic Material:	Item	Unit	Min.	Max.
	NaClO <sub>2</sub>	%, w/w	31.0	31.4
	NaClO <sub>3</sub>	%, w/w		0.30
	NaCl	%, w/w		0.51
	NaOH	%, w/w	0.10	0.68

Basic Material:	Item	Unit	Min.	Max.
	Na <sub>2</sub> CO <sub>3</sub>	%, w/w	0.15	0.42
	Turbidity	NTU		0.10

## B. SPECIFICATIONS FOR SODIUM BISULFITE (NaHSO<sub>3</sub>)

### 1. SCOPE

The product specified is a water based solution of sodium metabisulfite. Sodium bisulfite is a clear, free-flowing liquid, light green to colorless with a pungent aroma. Ingredients include water, caustic soda, sulfur dioxide and trace metallic and inorganic salt compounds. Product is to be delivered at the Warwick Wastewater Treatment Facility in 1800 to 2000 gallon truckloads on weekdays 8 am to 3 pm.

### 2. GENERAL

The price shall be good for the one-year period extending from July 1, 2018 through June 30, 2019. Term contracts may be extended for two additional one year terms upon mutual agreement unless otherwise stated. Billing shall be based on total gallons delivered.

### 3. QUANTITY

The estimated quantity, based upon a concentration of 38%-40%, shall be 25,000 gallons annually, or 35 gallons/day. Deliveries shall be no more than 2,000 gallons.

### 4. DELIVERY

Deliveries shall be made between the hours of 8 am and 3 pm Monday through Fridays and received at the Treatment Plant's Disinfection and Effluent Pumping Facility. Deliveries will be made only at the owner's request and be made by tanker truck capable of off-loading via pressure. A complete delivery slip shall accompany each delivery showing product assay strength, scale weights, approximate gallons and be signed by the owner as received. Deliveries shall be made in the requested quantity within five (5) days of the order.

### 5. TRANSPORTATION

All deliveries shall conform in every respect with applicable Federal and State laws for safety, security and load requirements.

### 6. STANDARDS

- ⇒ 38% - 40% sodium bisulfite by weight
- ⇒ 22.8% - 25.3% sulfur dioxide by weight
- ⇒ sulfur dioxide (#/gal.), 2.48 - 2.83
- ⇒ pH 3.5 - 4.5 standard units
- ⇒ specific gravity = 1.299 - 1.337 @ 15.6 degrees C
- ⇒ weight of solution 10.83 - 11.15 lbs.
- ⇒ delivery temperature may be up to 130 degrees Fahrenheit

**C. SPECIFICATIONS FOR LIQUID SODIUM HYDROXIDE  
(Caustic Soda)**

1. SCOPE

Product is to be delivered at the Warwick Sewer Authority wastewater treatment facility in 3,000 – 4,000 gallon truckloads weekdays 8 am to 3 pm. Product is to be offloaded into an above ground storage tank, located at the southeast corner of the Septage/ Inlet Facility.

2. GENERAL

The price shall be good for the one-year period extending from July 1, 2018 through June 30, 2019. Term contracts may be extended for two additional one year terms upon mutual agreement unless otherwise stated. Billing shall be based on total gallons delivered.

3. QUANTITY

The estimated quantity, based upon a concentration of 50% DIAPHRAGM GRADE shall be 91,250 gallons annually, or 250 gallons/day. Deliveries shall be no more than 4,000 gallons.

4. DELIVERY

Deliveries shall be made between the hours of 8 am and 3 pm Monday through Fridays and received at the Septage/ Inlet Facility. Deliveries will be made only at the owner's request and be made by tanker truck capable of off-loading via pressure. A complete delivery slip shall accompany each delivery showing product assay strength, scale weights, approximate gallons and be signed by the owner as received. Deliveries shall be made in the requested quantity within four (4) days of the order.

5. TRANSPORTATION

All deliveries shall conform in every respect with applicable Federal and State laws for safety, security and load requirements.

6. STANDARDS

- ⇒ 50% sodium hydroxide by weight, diaphragm grade
- ⇒ < 2% sodium chloride by weight
- ⇒ pH 14.0 standard units
- ⇒ specific gravity = 1.53 @ 15.6 degrees C
- ⇒ weight of solution 12.6 lbs./gal.

## D. SPECIFICATIONS FOR DRY CATIONIC POLYMER

### 1. SCOPE

The Warwick Sewer Authority (WSA) uses Cationic polymer (Cationic Polyacrylamide Flocculants) in three (3) different locations. (1) - for flocculating and improving solids capture, settleability and compaction of settled primary / waste mixed liquor / waste activated sludge in the Gravity Thickener; (2) – for settleability and compaction of mixed liquor as it enters the secondary clarifiers; (3) – Dewatering/Thickening of sludge utilizing a Rotary Screen (drum) Thickener. These manual batch made solutions are only produced when standard liquid polymer is not available. Product shall be granular material suitable for easy handling.

### 2. GENERAL

The price shall be good for the one-year period extending from July 1, 2018 through June 30, 2019. Term contracts may be extended for two additional one year terms upon mutual agreement unless otherwise stated. Billing shall be based on total gallons delivered

### 3. USAGE

The average annual usage is approximately 5,200 pounds of dry cationic polymer. This usage could vary over the course of the contract and should only be used as an indication of use.

Polymer can only be bid if proven to the satisfaction of the Warwick Sewer Authority (WSA) Plant Superintendent to be effective in obtaining the required results, and can be applied efficiently utilizing the existing polymer feed and make-up equipment. Polymers requiring feed equipment other than that furnished by WSA must be supplied by the bidder for both the plant trial and the duration of the contract. Approval of the polymer selected shall have satisfactorily demonstrated to be effective during a trial basis at the WSA prior to the date of the bid opening. Fifty pounds of dry polymer for these trial periods are to be furnished by the supplier after arrangements have been made with the Wastewater Treatment Plant. The trials will be conducted by both supplier and WSA plant personnel. This will allow all polymers to be evaluated and compared with like biosolids and conditions. A minimum of one (1), fifty (50) pound bag of polymer will be used in the plant to during the trial testing to assure compatibility with existing polymer feed equipment and the three (3) different plant processes.

Since polymer is not used on a regular basis in the secondary clarifiers, it will not be possible to do a bench test for this application. Polymer is only used for this application when the plant is in an "upset" condition (heavy flow conditions). Historically, the same polymer has worked well in the Secondary Clarifiers, RST, and in the Gravity Thickener. This is assumed to continue; therefore only one polymer will be bid for these applications. The polymer dosage determined by the bench top test will be used in the bid evaluation process.

<b>Product Type:</b>	Cationic Water-Soluble Polymer
<b>Appearance:</b>	White Crystalline Powder or Granular
<b>pH:</b>	3.0 – 4.0
<b>Delivery:</b>	50 lbs. bags or similar packaging

The polymer bid must have an adequate shelf life to remain in a uniform, useable condition throughout the receiving, storing, and using cycle of a minimum of six months. The WSA shall reserve the right of cancellation through a written notice expressing such intentions and providing thirty (30) days for effective cancellation. This contract may be cancelled in the event the polymer being furnished requires an excessively high application rate. The polymer feed application rate shall be considered to be excessively high if the feed rate in lb./ton as expressed in the bid proposal is exceeded by 20% to achieve coagulation and flocculation using the average of the performance for seven consecutive days as a basis of determining effectiveness.

## E. SPECIFICATIONS FOR LIQUID ALUM

### 1. SCOPE

This specification is for a liquid Aluminum Sulfate Hydrate solution. This product is to be used to aid in the phosphorus removal process at the Warwick Wastewater Treatment Facility.

### 2. GENERAL

The price shall be good for the one-year period extending from July 1, 2018 through June 30, 2019. Term contracts may be extended for two (2) additional one (1) year terms upon mutual agreement unless otherwise stated. Billing shall be based on total gallons delivered.

### 3. QUANTITY

Consumption of this product for this time period is estimated to be approximately 50,000 to 85,000 gallons. The owner reserves the right to increase or decrease the quantity in accordance with requirements.

### 4. DELIVERY

Deliveries will be made to the Warwick Sewer Authority, located at 125 Arthur W. Devine Boulevard, Warwick, Rhode Island, on weekdays between the hours of 8 am and 3 pm. A typical order will be for 3,000 to 5,000 gallons of the product. All deliveries shall be made in the requested quantity within five (5) days of the order. NOTE – Warwick Sewer Authority Liquid Aluminum Sulfate Hydrate Solution usage increases starting mid-March, with the startup of the advanced phosphorus removal system and continues until November 1<sup>st</sup> when the system is shut down. We are requesting qualified bidders to submit bids at both <5,000 gallons delivered and >5,000 gallons delivered.

### 5. TRANSPORTATION

All deliveries shall conform in every respect with applicable Federal and State laws for safety, security and load requirements.

### 6. STANDARDS

⇒	Chemical Formula	Al (SO <sub>4</sub> ) 14H <sub>2</sub> O
⇒	Appearance:	Clear Liquid with Greenish or Brown Tint
⇒	Assay:	45-55% Al (SO <sub>4</sub> ) 14 H <sub>2</sub> O
⇒	pH -	2-3.5
⇒	Specific Gravity:	1.3



**G. SPECIFICATIONS FOR LIQUID FERRIC CHLORIDE SOLUTION  
(Ferric)**

4. SCOPE

Product is to be delivered at the Warwick Sewer Authority wastewater treatment facility in 45,000 lb. truckloads (approximately 4,000 gallons), weekdays 8 am to 3 pm. Product is to be offloaded into the Ferric storage tanks located inside the northwest corner of the Phosphorus Removal Building via the outside fill connections.

5. GENERAL

The price shall be good for the one-year period extending from July 1, 2018 through June 30, 2019. Term contracts may be extended for two additional one year terms upon mutual agreement unless otherwise stated. Billing shall be based on total gallons delivered.

6. QUANTITY

The estimated quantity, TBD. Deliveries shall be in full truckloads.

7. DELIVERY

Deliveries shall be made between the hours of 8 am and 3 pm Monday through Fridays and received at the Phosphorus Removal Building. Deliveries will be made only at the owner's request and be made by tanker truck capable of offloading via pressure. A complete delivery slip shall accompany each delivery showing product assay strength, scale weights, approximate gallons and be signed by the owner as received. Deliveries shall be made in the requested quantity within four (4) days of the order.

8. TRANSPORTATION

All deliveries shall conform in every respect with applicable Federal and State laws for safety, security and load requirements.

9. STANDARDS / Product Specifications:

a.	FeCl <sub>3</sub>	37 +/- 42%
b.	Appearance	Dark Brown Liquid
c.	Fe (III)	12.7 – 14.5%
d.	Fe (II)	<0.5%
e.	Specific Gravity	1.38 – 1.45 (25°C)

**CITY OF WARWICK**

**BID AND CONTRACT FORM**

**TITLE OF SPECIFICATION: Bid2019-010 Wastewater Treatment Chemicals**

**I. BID:**

WHEREAS, the CITY OF WARWICK has duly asked for bids for performance of services and/or supply of goods in accordance with the above-indicated specifications.

The person or entity below does irrevocably offer to perform the services and/or furnish the goods in accordance with the specifications, which are hereby incorporated by reference in exchange for the bid price below;

This offer shall remain open and irrevocable until the CITY OF WARWICK has accepted this bid or another bid on the specifications or abandoned the project.

The bidder agrees that acceptance below by the CITY OF WARWICK shall transform the bid into a contract. This bid and contract shall be secured by Bonds, if required by the specifications.

**Pricing as Submitted**